

Elemental sulfur as an oral or parenteral medical product

The prior art:

Environmental pollutants as Epoxides, arene oxide, nitro groups, hydroxylamines and aflatoxins need Glutathione conjugation where the endogenous reactant is Glutathione in the presence of Glutathione S Transferase (cytosol microsomes). Since Glutathione is the major intracellular soluble sulfahydryl – containing compound, factors that regulate the biosynthesis and the composition have important consequences. The Glutathione conjugation is a common pathway for detoxification of primary metabolites to reduced Glutathione. These water soluble secondary metabolites are readily excreted in the bile and urine. Glutathione conjugation defects leads to accumulation of environmental pollutants. Treatment of the resultant diseases and syndromes were targeted at supplying sulfur as sulphates of different organic and inorganic substances with side effects related to these substances.

The problem:

All the earlier experiences addressed the symptomatology of the disease and none addressed the aetiology which was obscure. None provided the sulfur to bypass the deficiency of the glutathione S transferase to detoxify all the ingested or inhaled toxins.

25 The new in the invention:

Elemental Sulfur and its acid addition salts and derivatives for Glutathione S Transferase heterozygous and homozygous disorders and Epoxide Hydrolase heterozygous and homozygous disorders.

30 Title element and its acid addition salts and derivatives are physiologically acceptable, essential and are readily converted to acceptable counter parts by established procedures, they are pharmacologically active on the liver, lungs, hematopoietic system and all body systems and all malignancies and the autoimmune and immune mediate disorders and are thus useful when administered to warm blooded animals to induce detoxification of many endogenous and

exogenous metabolites. They are useful in terminating diseases associated with Glutathione S Transferase and Epoxide Hydrolase disorders.

5 The elemental sulfur provides the body and liver cells by the essential sulfur to bind to toxic material and thus is eliminated in bile. Sulfur is absorbed from the small intestines as sulfates with essential amino-acids or as a salt to other acids.

10 These compounds are prepared as elemental or as salts or as acid addition salts and derivatives compounds. They are simply elemental or compounded into different dosage – multi form medicament compositions.

15 **The detailed Description:**

Pure sulfur element and/ or its acid addition salts and derivatives are prepared by all industrial techniques and processes, and bound by any binder.

20 **Industrial applicability:**

25 Inclusion of Elemental Sulfur and/or its acid addition salts and derivatives in management protocols of Glutathione S Transferase heterozygous and homozygous disorders and Epoxide Hydrolase heterozygous and homozygous disorders, and glutathione depletion associated syndromes.